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AMSAT NEWS SERVICE
ANS-258

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
http://www.amsat.org/mailman/listinfo/ans

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ANS-258 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 258.01
>From AMSAT HQ KENSINGTON, MD.
DATE 2019-Sept-15
To All RADIO AMATEURS
BID: $ANS-258.01

Request for cooperation in receiving Fuji 3 (FO-29)

The amateur satellite “Fuji 3” has been unable to confirm the operation of CW telemetry and heterodyne repeaters after 21:45 (UTC) on July 9, 2019, but is more unstable than yesterday. However, while confirming the operation of CW telemetry and heterodyne repeaters, we continue to test for stable operation.

Therefore, those who can receive CW telemetry of Fuji No. 3 (FO-29)
will try to start with a command during the next pass through Japan,
so please report the reception report to the following address.

(Time of pass through Japan)
2019/09/14 06:40 16:45 (UTC)
2019/09/15 05:40 17:35 (UTC)

[Send email address of received report] oper(a)jarl.org

We ask for your cooperation in collecting information on Fuji 3 of
many users.

JARL Secretariat Member Section “Fuji 3” Telemetry

NO-104 Camera Will be 'Live' This Week

Controllers for NO-104 (PSAT-2) announced on September 13 that they
have commanded the camera to take a picture and store it into memory
every 10 minutes. This mode should last for 7 days or at least to next
commanding session on Monday.

The transmitting counter, which selects a picture for downlink, is not
sychronized with the camera, so there is an uncertain delay between ac-
quiring a picture and its transmission, up to a maximum of 64 minutes.
Every picture will be downlinked just once so every reception counts.
The downlink is not operating during eclipse.

Further info on https://github.com/alpov/PSAT-2/blob/master/README.md

[ANS thanks Ales Povalac, OK2ALP, and Tomas Urbanec, OK2PNQ, for the
 above information]

Chinese Taurus-1 Amateur Satellite Launched

BG2BHC reported on Twitter that Taurus-1 launched on Thursday, Sept. 12
on the CZ-4B launch from Taiyuan Satellite Launch Center. Taurus-1
carries an FM to Codec2 repeater that operates using the same protocol
as LO-90 (LilacSat-1) and can use the same software (after frequencies
are changed). FM uplink is on 145.820 MHz, downlink on 436.760 MHz,
and the telemetry downlink is on 435.840 MHz.

CelesTrak currently has three objects from the launch cataloged out of
an expected four. The currently cataloged objects are 2019-059A,
2019-059B, and 2019-059D. TLEs can be found at
https://celestrak.com/NORAD/elements/tle-new.txt

Nico Janssen, PA0DLO, reports that Doppler measurements suggest that
Taurus 1 is object 44530 (2019-059C), and the actual measured telemetry
downlink frequency: 435.8387 MHz. TLEs can be found at
https://celestrak.com/NORAD/elements/tle-new.txt

For more information about this unique analog uplink, digital downlink
system, see the AMSAT Journal article / Symposium paper about LO-90 at
https://tinyurl.com/y6jzoful

[ANS thanks Paul Stoetzer, N8HM, adn Nico Janssen, PA0DLO, for the
 above information]

Amateur Radio Digital Communications (ARDC) Awards Grant to ARISS

Amateur Radio Digital Communications (ARDC) has awarded a very generous grant to ARISS for the Next Generation radio system. ARDC is the owner and manager of the Internet network known as the AMPRNet. In June of 2019, ARDC initiated a philanthropic endeavor to provide monetary grants to organizations, groups, projects, and scholarships which have significant potential to advance the state of the art of Amateur Radio, and digital communications in general.

The ARISS Next Generation radio system (or Inter Operable Radio System - IORS) will support easier radio mode transition, to enable new, exciting capabilities for hams, students and the general public including:

+New amateur radio communication and experimentation capabilities, including an enhanced voice repeater and updated digital packet radio (APRS) capabilities.

+Slow Scan TV (picture up and downlinks) in both the US and Russian segments of ISS.

+New multi-voltage power supply will support present and future radio capabilities and allow wireless experiments to be conducted.

In July, the Inter Operable Radio System successfully completed a battery of stressful tests required as part of the final certification of the hardware for launch to and operation on the International Space Station. Final assembly of the flight safety certification in preparation for launch is now underway and ARISS is working towards launch ready status by the end of the year.

For more information on the award please see:
https://www.ampr.org/g2019-09-01a/

To contribute to ARISS and the IORS please see:
https://www.ariss.org/donate.html

ARISS and AMSAT thank ARDC for their generosity in supporting this important project.

[ANS thanks ARISS, the AMSAT office, and ARDC for the above informa-
tion.]

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The International Amateur Radio Union (IARU) - Region 3 (Asia-Pacific Region) Directors meeting was held in Tokyo September 2-3. A modified interim Region 3 bandplan was approved which included an Amateur-Satellite Service allocation in the 15m band. The modified interim Region 3 bandplan proposed by the Region 3 Bandplan Committee was approved. A notable change was addition of a satellite portion in 15m Band as agreed at the last Region 3 Conference. The interim IARU Region 3 bandplan is available at: https://tinyurl.com/y637aw47 A complete report of the Region 3 Directors meeting may be found at: https://amsat-uk.org/2019/09/12/iaru-r3-bandplan/

[ANS thanks AMSAT-UK for the above information]

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Volunteer Opportunity - AMSAT Looking for Graphics Designer

AMSAT has a need for a volunteer graphics designer to occasionally assist with page layout of our in-house advertising panels for the AMSAT Journal. The Journal uses Adobe InDesign software to publish but our software can import and place PDF and JPG formatted pages that you create with the graphics tools of your choice.

If you can fill this need contact Robert Bankston, KE4AL, AMSAT VP-User Services at ke4al (at) amsat.org.

[ANS thanks AMSAT for the above information]

Nine US Schools Moved Forward in ARISS Selection Process

The Amateur Radio on the International Space Station (ARISS) has announced the schools/host organizations selected for amateur radio contacts with the ISS during the first half of 2020. A total of 9 of the submitted proposals during the recent proposal window have been accepted to move forward in the processes of planning to host a scheduled amateur radio contact with crew on the ISS. The primary goal of the ARISS program is to engage young people in Science, Technology, Engineering, Arts and Math (STEAM) activities and raise their awareness of space communications, radio communications, space exploration, and related areas of study and career possibilities.

The ARISS program anticipates that NASA will be able to provide scheduling opportunities for the 9 US host organizations during the January to June 2020 time period. They are now at work completing an acceptable equipment plan that demonstrates their ability to execute the ham radio contact. Once their equipment plan is approved by the ARISS Technical Mentors, the final selected schools/organizations will be scheduled as their availability and flexibility match up with the scheduling opportunities offered by NASA.

The schools and host organizations are:
Celia Hays Elementary School, Rockwall, Texas
Golden Gate Middle School, Naples, Fla.
J.P. McConnell Middle School, Loganville, Ga.
Kittredge Magnet School, Atlanta, Ga.
Maple Dale Elementary School, Cincinnati, Ohio
Monroe Carrell Jr. Children’s Hospital at Vanderbilt, Nashville, Tenn.
Oakwood School, Morgan Hill, Calif.
Ramona Lutheran School, Ramona, Calif.
River Ridge High School, New Port Richey, Fla.

Amateur Radio on the International Space Station (ARISS) is a cooperative venture of international amateur radio societies and the space agencies that support the International Space Station (ISS). In the United States, sponsors are the Radio Amateur Satellite Corporation (AMSAT), the American Radio Relay League (ARRL), the ISS National Lab and National Aeronautics and Space Administration (NASA). The primary goal of ARISS is to promote exploration of science, technology, engineering, and mathematics (STEAM) topics by organizing scheduled contacts via amateur radio between crew members aboard the ISS and students in classrooms or public forms. Before and during these radio contacts, students, educators, parents, and communities learn about space, space technologies, and amateur radio.

For more information, see www.ariss.org.

[ANS thanks ARISS for the above information]

AMSAT-UK International Space Colloquium, October 12-13

The AMSAT-UK Colloquium, incorporated into the RSGB Convention, will take place October 12-13 at the Kents Hill Park Conference Centre, Timbold Drive, Milton Keynes, MK7 6BZ.

A webstream of the Colloquium talks will be available at https://batc.org.uk/live/

Booking for the RSGB Convention which includes the AMSAT-UK Colloquium is at https://rsgb.org/main/about-us/rsgb-convention/

The weekend event attracts an international audience that ranges from those involved in building and operating Amateur Radio satellites to beginners who wish to find out more about this fascinating branch of the hobby.

Included will be a roundup of a number of new live and potential space-craft projects that are under investigation and/or development, plus all the usual networking opportunities, the gala dinner, auction and raffle.

Travel Information http://kentshillpark.com/how-to-find-us

The full schedule for both the AMSAT-UK Colloquium and RSGB Convention talks is at https://rsgb.org/main/about-us/rsgb-convention/

[ANS thanks AMSAT-UK for the above information]

Final Steps Taken Toward ELaNa 25 Amateur Satellite Launch

The upcoming NASA Educational Launch of Nanosatellites (ELaNa) mission 25 is scheduled to boost several new satellites carrying amateur radio into space this fall.

The launch will carry more than a dozen cubesats to the ISS for deploy-ment, including two satellites of particular interest to amateurs:

  TJREVERB - Thomas Jefferson High School, Alexandria, Va. will carry a 145.825 MHz APRS digipeater. Information on TJREVERB may be found at https://activities.tjhsst.edu/cubesat/index.php

  HuskySat – University of Washington, Seattle will be boosted into a higher, 500km orbit via the Cygnus external deployment device, and will carry a V/U linear transponder provided in cooperation with AMSAT. The HuskySat web page is https://sites.google.com/uw.edu/huskysatellitelab/huskysat-1

Although launch schedules and manifests are always subject to change, other satellites announced for the ELaNa 25 launch that have secured IARU coordination for amateur frequencies are:

  Argus – St. Louis University, Mo. (437 MHz telemetry)
  AzTechSat-1 – NASA Ames Research Center, Calif. (437 MHz telemetry)
  CySat – Iowa State University, Ames, Iowa (436 MHz telemetry)
  Phoenix – Arizona State University, Tempe (437 & 2400 MHz telemetry)
  RadSat-U – Montana State University, Bozeman (437 MHz telemetry)
  SPOC - University of Georgia, Athens (437 & 2400 MHz telemetry)

SwampSat II - University of Florida, Gainesville (437 & 2400 MHz telemetry)

[ANS thanks AMSAT-UK for the above information]

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DM02 Satellite Expedition Sunday, September 22 - N6O/MM

Alex, N7AGF, and Ron, AD0DX, are planning to activate DM02 on Sunday, September 22, 2019 on FM and Linear satellites.

It's a 5 or 6 hour boat trip to anchor off San Clemente Island. We will be on the water for 22 hours and operating around 10 hours beginning around 3:00 AM PDT (1000Z) on Sunday, September 22
The cost of the boat is $2500 and we would appreciate contributions to help offset this cost. In the 24 hours after posting to Twitter we have received around $1300 which Alex and I are very thankful for. The island has Verizon and AT&T and Alex has a Garmin InReach so we should be able to tweet passes. The plan is to make as many passes as possible once we start operating around 3:00 AM PDT. We may skip some of the low western passes.

We will be using N6O/mm and we have a qrz.com page with all the details: https://www.qrz.com/db/N6O

If you need the grid please give us a call!

Of course this is dependent on the weather, but the captain says it has been a good September so far. If you are able to contribute financially we really appreciate the help to offset some of our costs. Details to contribute are on the N6O QRZ.com webpage.

[ANS thanks Ron, AD0DX, and Alex, N7AGF, for the above information.]

Upcoming Satellite Operations

EN54/EN64 September 13-15
Brad Smith, KC9UQR, will be active on AO-91 and AO-92 while traveling this weekend in Wisconsin.

DN11/DN12 + DN03 September 17, 2019
Casey, KI7UNJ is heading to the DN11/DN12 line, September 17th. Look for him on SO-50, AO-92, and AO-91, between 1657z and 1812z. On the way back, Casey will make a quick stop in DN03 to catch te 2043z PO-101 pass. Watch Casey’s Twitter feed for further updates https://twitter.com/KI7UNJ

DM02/mm (need we say more) September 22, 2019
Ron, AD0DX, and Alex, N7AGF, are chartering a boat to the ultra-rare DM02 grid square. They will use the special event call sign November 6 Ocean/Maritime Mobile. Expected window of operation is from 1000z to 1900z, Sunday, September 22nd. More information is available on QRZ https://www.qrz.com/db/N6O to include how you can help support this monumental operation. Ron and Alex are expected to have cellular service out there, so keep an eye on their Twitter feeds https://twitter.com/ad0dx and https://twitter.com/N7AGF

FP, ST. PIERRE & MIQUELON (GN17) September 24 to October 8, 2019
Eric, KV1J, will once again be oper ating from the Island of Miquelon (NA-032, DIFO FP-002 WLOTA 1417, Grid GN17) as FP/KV1J between Septem- ber 24th and October 8th. This is his 13th trip to the island. Activi- ty will be on 160-6 meters (no 60M – not author ized) using CW, SSB, RTTY, FT8 (but primarily SSB, RTTY and FT8) and the satellites. He will generally be on the highest frequency band that is open (favoring 12/10m). He will be active in the CQWW DX RTTY Contest (September 28- 29th). ADDED NOTE: Eric will usually try to be on as many Satellite

passes as he can when the WX is good, generally favoring the FO-29, XW-2x, AO-7, and possibly the FM birds. Eric states, “Equipment is two FT-817s and an Arrow dual band yagi. I’ll favor the SSB birds usually higher in the passband, but will also try FM if they do not get too busy. Satellite logging is by paper so may not get loaded to LoTW until the week after I return to the USA.” Weekends may be limited since he will be concentrating on the low(er) bands and contests. QSL via KV1J, direct or by the Bureau. Also eQSL, ClubLog and LoTW. For more details and updates, check out his Web page at:
http://www.kv1j.com/fp/Sep19.html

Remember to check out W3ZM On the Road for additional upcoming activations! https://www.amsat.org/events/was-w3zm/

[ANS thanks Robert Bankston, KE4AL, for the above information]

Satellite Shorts From All Over

+ The AMSAT-LU WSPR Picoballoon on 14.0956 USB released August 31 is about to complete its first circumnavigation of the globe after traveling 33,000 km in 12 days. AMSAT-LU appreciate any WSPR stations that help to receive it, AMSAT-LU will recognize with a certificate to stations that capture its 25 mW beacon. Also the APRS PicoBalloon (145.825 via Sat 1W) will be returning to South America. Full story with links at https://tinyurl.com/y5xkbrbr
(ANS thanks AMSAT-UK for the above information)

+ For Flashback Friday, AMSAT released disk images of Bob McGwier, N4HY's QUIKTRAK for both the Commodore 64 and Apple II to provide a fun look back at the state-of-the art in satellite tracking in the mid-1980s. Check them out at https://tinyurl.com/ANS-258-FBF

+ The Hawaii Space Flight Laboratory at the University of Hawaii has applied to the International Amateur Radio Union (IARU) for frequency coordination for the amateur radio payloads aboard its Neutron-1 spacecraft. The amateur payload will provide a V/U FM voice repeater for amateur and educational purposes. Proposed are 1k2-9k6 AX telemetry and FM voice UHF downlink and a VHF FM uplink. The Neutron-1 website is: https://www.hsfl.hawaii.edu/web/neutron1/
(ANS thanks AMSAT-UK for the above information)

+ Japan called off a planned cargo ship launch to the International Space Station on September 10 after a fire erupted on the launch platform for the mission's rocket.
(ANS thanks Space.com for the above information)

+ The Dayton Amateur Radio Association (DARA) has signed a 5-year agreement to keep Dayton Hamvention® at the Greene County Expo Center. The agreement was announced on September 9.
(ANS thanks ARRL for the above information)

+ After years of construction, China’s new radio telescope is in action. The telescope, called FAST (Five-hundred-meter Aperture Spherical Radio Telescope) has double the collecting power of the Arecibo Observatory in Puerto Rico, which has a 305 meter dish. Until now, Arecibo was the world’s largest radio dish of its type.
(ANS thanks Universe Today for the above information)

* The College of Engineering at Villanova University has published a very nice feature story about the University's involvement with ham satellites. The article, titled, "They May be Building Nanosatellites, but there’s Nothing Small about Villanova’s CubeSat Club,"

may be found at: https://tinyurl.com/yytj6vsj

+ An article by Karl-Heinz Krawczyk, DL1GKK, describes how to install amateur radio software on the Raspberry Pi to provide the popular data modes, SSTV, satellite tracking, SDR, rig control and logbook. The English language article is available on the site of Indonesia's national amateur radio society ORARI: https://tinyurl.com/y4gb82hb (ANS thanks Southgate ARC for the above information)

+ An interesting article on Satellite collisions has been published this week in SatNews Daily: https://tinyurl.com/yyk3f2q2 (ANS thanks Christy Hunter, KB6LTY, for the above information)

+ Help AMSAT return to Greater Orbits with Larger Footprints with exciting technologies like attitude determination and control, and software-defined transponders utilizing microwave bands. Consider a one-time or recurring donation today: https://tinyurl.com/y5kupb55

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73 and Remember to help keep amateur radio in space,
This week's ANS Editor,

K0JM at amsat dot org